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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/634,981	08/05/2003	Rainer Tossavainen	TOSR18A	6936

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EXAMINER

VASUDEVA, AJAY

ART UNIT	PAPER NUMBER
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3617

DATE MAILED: 05/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/634,981

Applicant(s)

TOSSAVAINEN, RAIMER

Examiner

Ajay Vasudeva

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 17-22 is/are rejected.
- 7) ☐ Claim(s) 3-16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/08/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, and 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Wankel.

Wankel shows a set of forward, middle and rear hydrofoils units [17] that are attached to the bottom of the hull (figures 2 and 5). Although the rear hydrofoils are not specifically shown as attached to the trim tabs, the rear hydrofoils are considered as capable of being attached to the trim tabs, if one so intends. Each hydrofoil unit comprises at least one hydrofoil and a pair of stanchion for an equidistant attachment from the bottom of the boat.

It is noted that claim 1 is a subcombination claim directed only at a hydrofoil system, and lacks any positive recitation for attachment to a boat hull structure. The highlighted limitations

"A hydrofoil system for lifting a boat out of water ..., said system comprising: ... wherein said front hydrofoil unit is for depending from the bottom of the hull at the bow thereof; wherein said pair of rear hydrofoil units are for depending from the port and starboard trim tab units of the hull, respectively; and wherein said center hydrofoil unit is for depending from the bottom of the hull at the substantial center thereof"

(emphasis added) in the claim are merely intended use limitations, and therefore have not been given any patentable weight. As such, the rear hydrofoils of Wankel are considered capable of attachment to the trim tabs of a boat instead of the rear bottom of the hull, and therefore meets the limitation of the claim.

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Further, however, the applicant may note that if the claim is amended in order to positively recite an attachment of the rear hydrofoils with the trim tabs, the claim would then be considered as specifically defining an environment of use by breathing life into the preamble of the claim, and would overcome this specific rejection. The following is a recommended amendment:

"A hydrofoil system ... comprising: ...
wherein said front hydrofoil unit ~~is for depending~~ [depends] from the bottom of the hull at the bow thereof;
wherein said pair of rear hydrofoil units ~~are for depending~~ [depend] from the port and starboard trim tab units of the hull, respectively; and
wherein said center hydrofoil unit ~~is for depending~~ [depends] from the bottom of the hull at the substantial center thereof".

Note: In the above recommended amendment, although an attachment to a boat hull is positively recited, the claim is still considered a subcombination claim.

Corresponding changes should be made in dependent claims 2, 17 and 19 if the above recommendation is acceptable to the applicant.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1, 2 and 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang in view of Finkl.

Huang shows a boat with an inboard-outboard drive, and a set of forward and middle hydrofoils units [18] that are attached to the bottom of the hull (figure 1) for lifting the boat out of the water to reduce drag. The front hydrofoil unit comprises a hydrofoil mounted to a mounting portion of the hydrofoil unit. The middle hydrofoil unit is attached at a substantial center of the boat hull, and comprises a hydrofoil mounted to a pair of stanchion such that the hydrofoils extend equidistantly outwardly from the pair of stanchions.

Huang is silent on the provision of trim tab units, or of a rear hydrofoils units that depend from the trim tabs.

Finkl shows a boat with an inboard-outboard drive, and a trimming arrangement (see figure 8-12) employing trim tabs attached to the stern. Each trim tabs is provided with a hydrofoil unit, wherein the hydrofoil unit has a hydrofoil portion [92] and an inverted L-shaped stanchion [94,96] for attachment to the trim tab by use of mechanical fasteners (col. 12, line 14).

It would have been obvious for one skilled in the art at the time of the invention to have provided a trimming arrangement adjacent the propeller in the boat of Huang, as taught by Finkl.

Although the original hydrofoils in the boat of Huang are designed to provide a level attitude during steady propulsion, such hydrofoils would not prevent dipping of the bow during rapid acceleration because an increased thrust provided by the propeller during acceleration

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would cause the stern to rise up and rotate the hull about the center of gravity. Further, an uneven load distribution about the center of gravity of the boat, such as with uneven passenger seating, would also cause boat attitude problems. Similarly, the original hydrofoils would not prevent listing of the boat during sharp turns.

However, it would have been desirable to use the trimming arrangement of Finkl because it would provide level attitude to the boat during acceleration, with uneven load distribution, or during sharp turns, thereby increasing the propulsion efficiency.

Applicant may additionally note that use of screws as mechanical fasteners is old and well known in the art, and therefore it would have been obvious for one skilled in the art to have used such screws to attach the stanchion to the trim tab. It would also have required one to provide through bores so that screws could pass through the stanchion structure when being attached to the trim tabs. Using screws would have enabled one to easily remove the hydrofoil units for replacement or repairs.

Examiner's Observations

5. Applicant's use of the term "trim tabs" in the claims without specifying a specific structure or an intended use is considered extremely broad and nonspecific. The applicant is advised that a broad range of structures -- such as the bracket element 13 in the O'Donnell reference cited in this action -- could be interpreted as a trim tab. Similarly, structure 15 can be considered a hydrofoil and structure 16 can be considered a stanchion.

Applicant is advised to better characterize the term "trim tabs" by specifying its structure, disposition and intended use to prevent use of a broad interpretation, as described above.

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Allowable Subject Matter

6. Claims 3-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Buzzi, Lexau, O'Donnell, Payne, Danahy, Sachs, Erlykin et al., Bue, Hobday, Bailey, Hook, Curtis, Bader et al., Leehey, Von Schertel, Hazard, Von Burtenbach, Luders, JP (387) and JP (695) show boats with trimming systems or hydrofoils.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ajay Vasudeva whose telephone number is (703) 306-5992. The examiner can normally be reached on Monday-Friday 1:00 pm--5:30 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, S. Joe Morano can be reached on (703) 308-0230. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


AV

Ajay Vasudeva
Examiner
Art Unit 3617


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